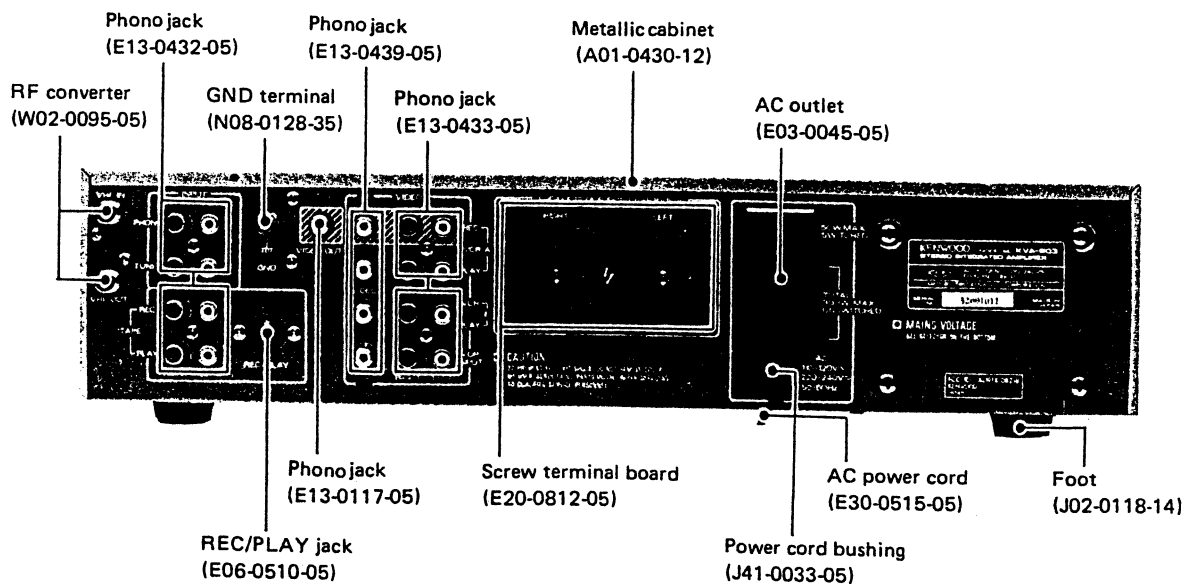
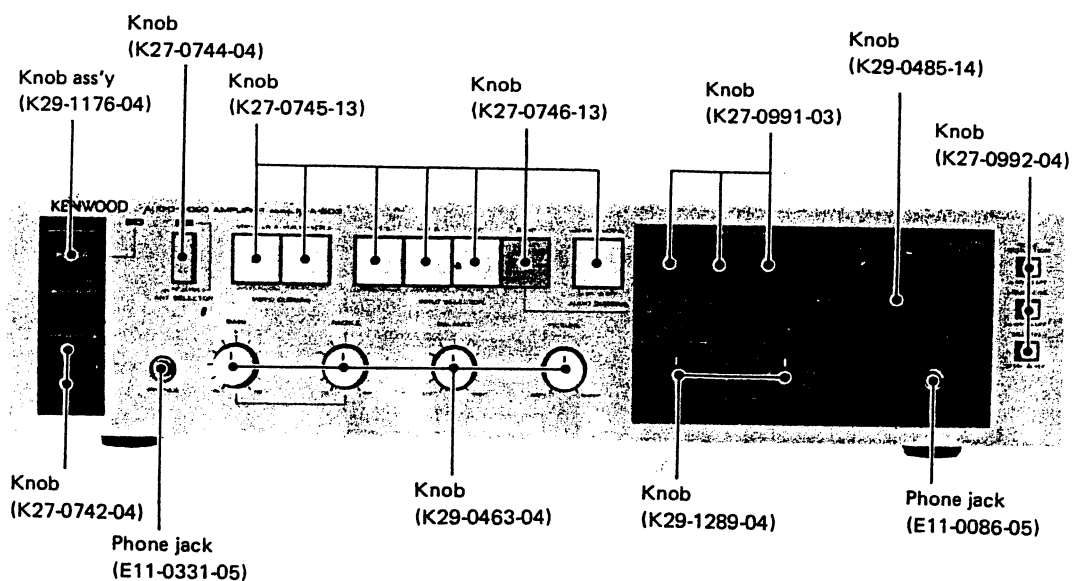


KENWOOD

KVA-503

AUDIO-VIDEO AMPLIFIER



ADJUSTMENT/REGLAGE/ABGLEICH

BIAS CURRENT ADJUSTMENT (IDLE)

1. Turn the volume knob fully counterclockwise.
2. Connect a DC voltmeter to both pins of R29 (R30) of the AUDIO AMP (X09-1800-83). (See the figure below.)
3. Turn the power on and wait 5 minutes.
4. Adjust VR5 (VR6) so that the DC voltmeter reads 18 ~ 22 mV

Note:

Since a heat pipe is used in the heat radiator of the KVA-503, be sure that the unit is level when making the adjustment.

RÉGLAGE DU COURANT DE POLARISATION (IDLE)

1. Tourner le réglage du volume à fond de course vers la gauche.
2. Relier un voltmètre pour courant continu aux deux broches du R29 (R30) de AUDIO AMP (X09-1800-83). (Se reporter à l'illustration ci-dessous.)
3. Mettre le circuit sous tension et attendre cinq minutes.
4. Régler le VR5 (VR6) de façon que le voltmètre indique 18 à 22 mV.

Remarque:

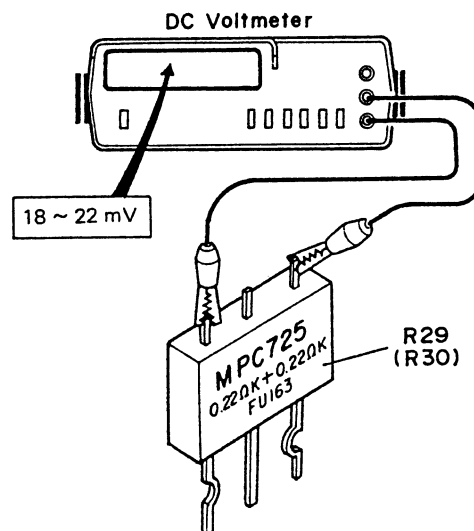
Etant donné qu'une conduite de chaleur est incluse dans le radiateur du KVA-503, s'assurer que l'appareil repose sur une surface plane avant de procéder au réglage.

VORSPANNUNGSSTROMEINSTELLUNG (IDLE)

1. Den Lautstärkesteller ganz nach links drehen.
2. Einen Gleichspannungsmesser an beide Stifte von R29 (R30) des AUDIO AMPES (X09-1800-83) anschließen. (Siehe nachstehende Zeichnung.)
3. Die Stromversorgung einschalten und 5 Minuten warten.
4. VR5 (VR6) so einstellen, daß der Gleichstrommesser 18 ~ 22 mV anzeigt.

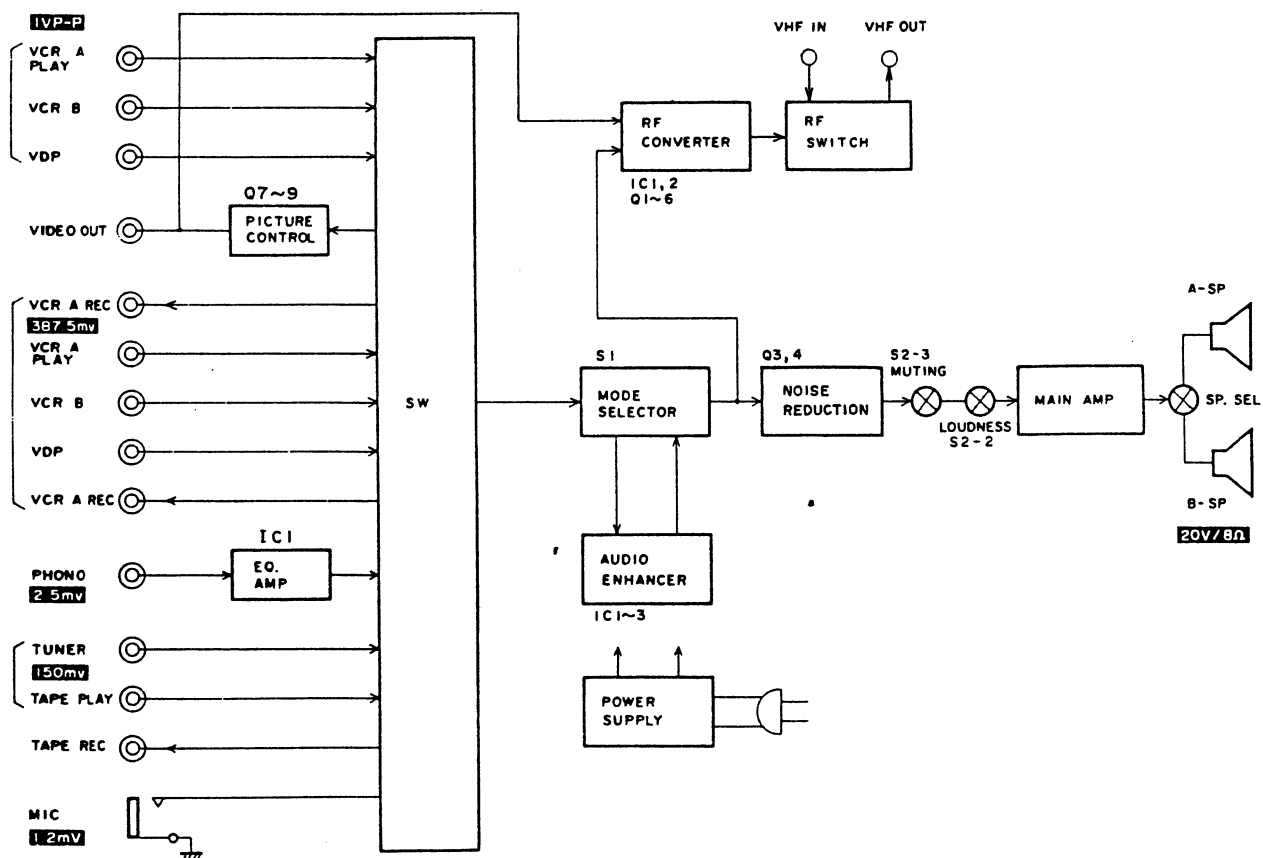
Hinweis:

Da im Wärmestrahler des KVA-503 eine Heat Pipe verwendet wird, Sollte man beim Einstellen unbedingt auf waagerechte Stellung des Gerätes achten.



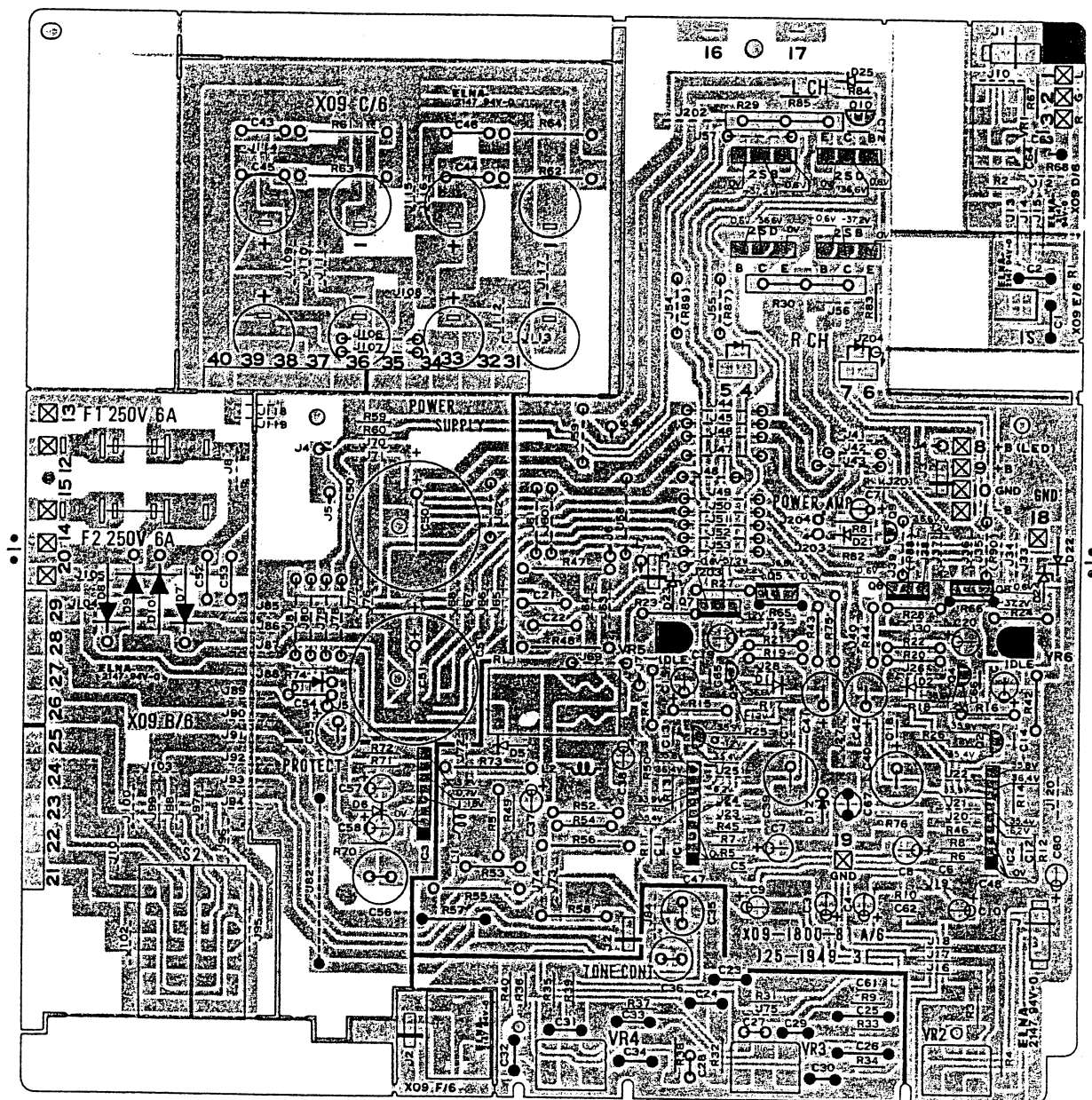
BLOCK DIAGRAM

BLOCK DIAGRAM



PC BOARD

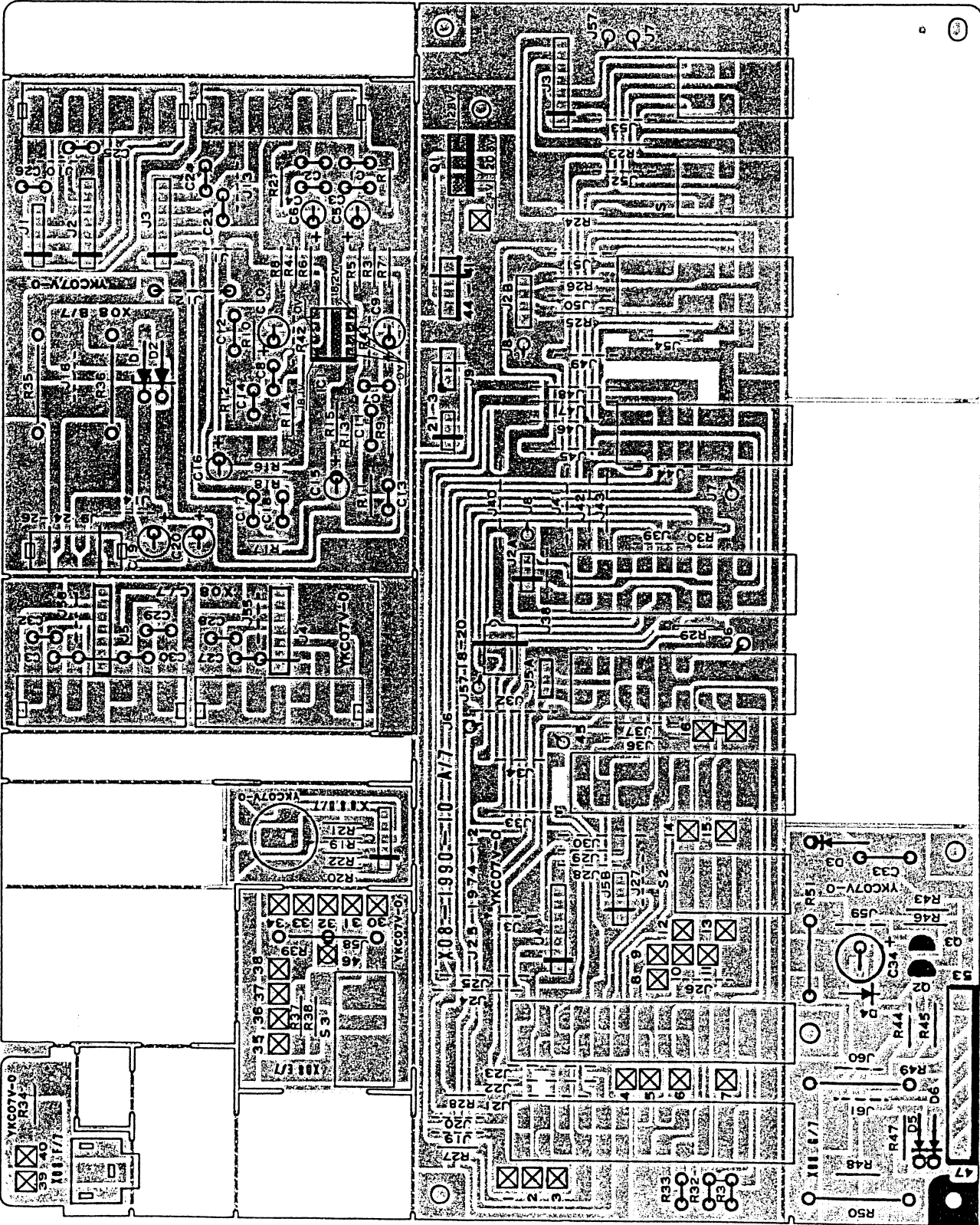
MAIN AMP (X09-1800-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors.
The pc board drawing is viewing from the side easy to check.

PC BOARD

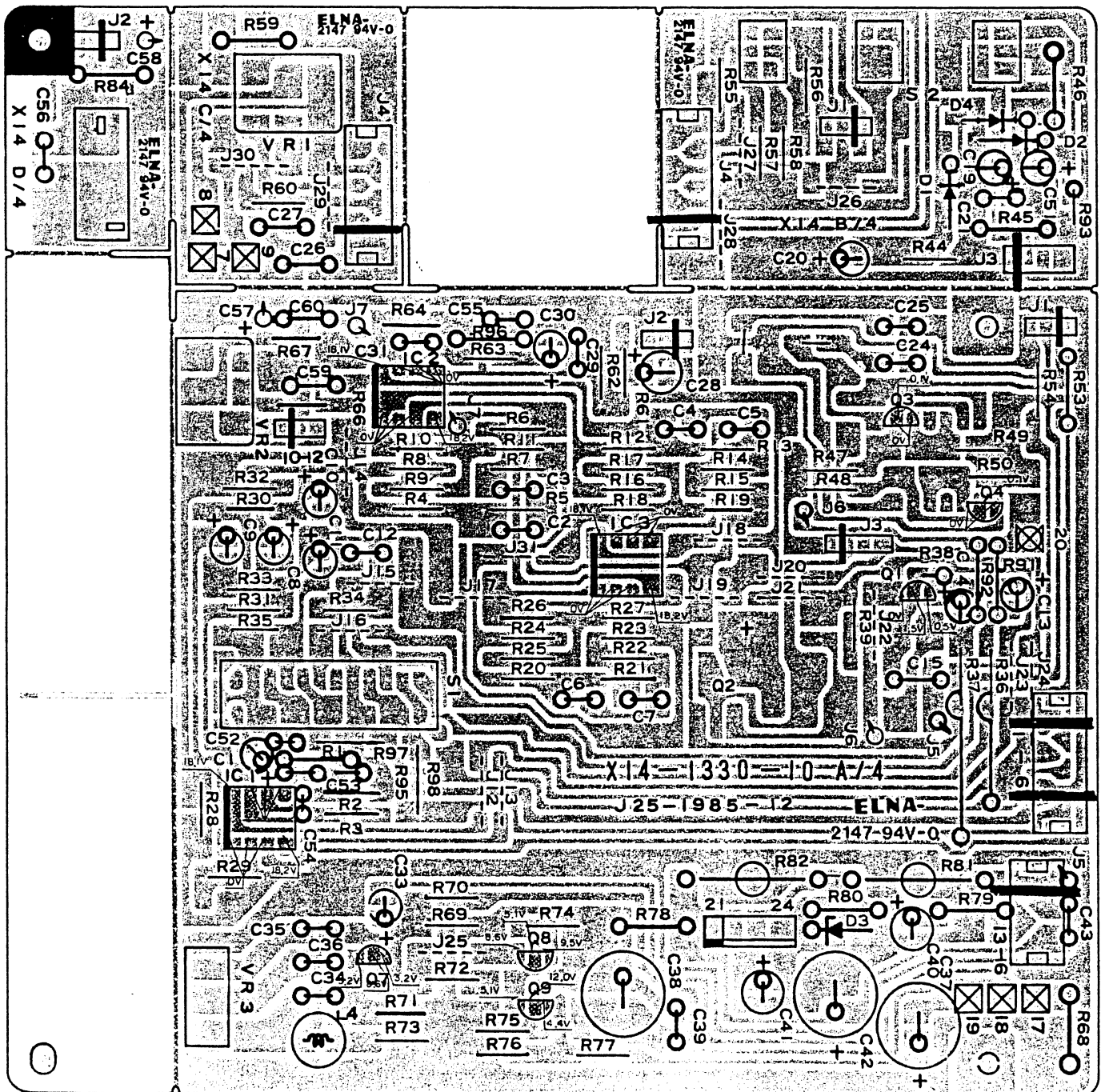
CONTROL (X08-1990-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewing from the side easy to check.

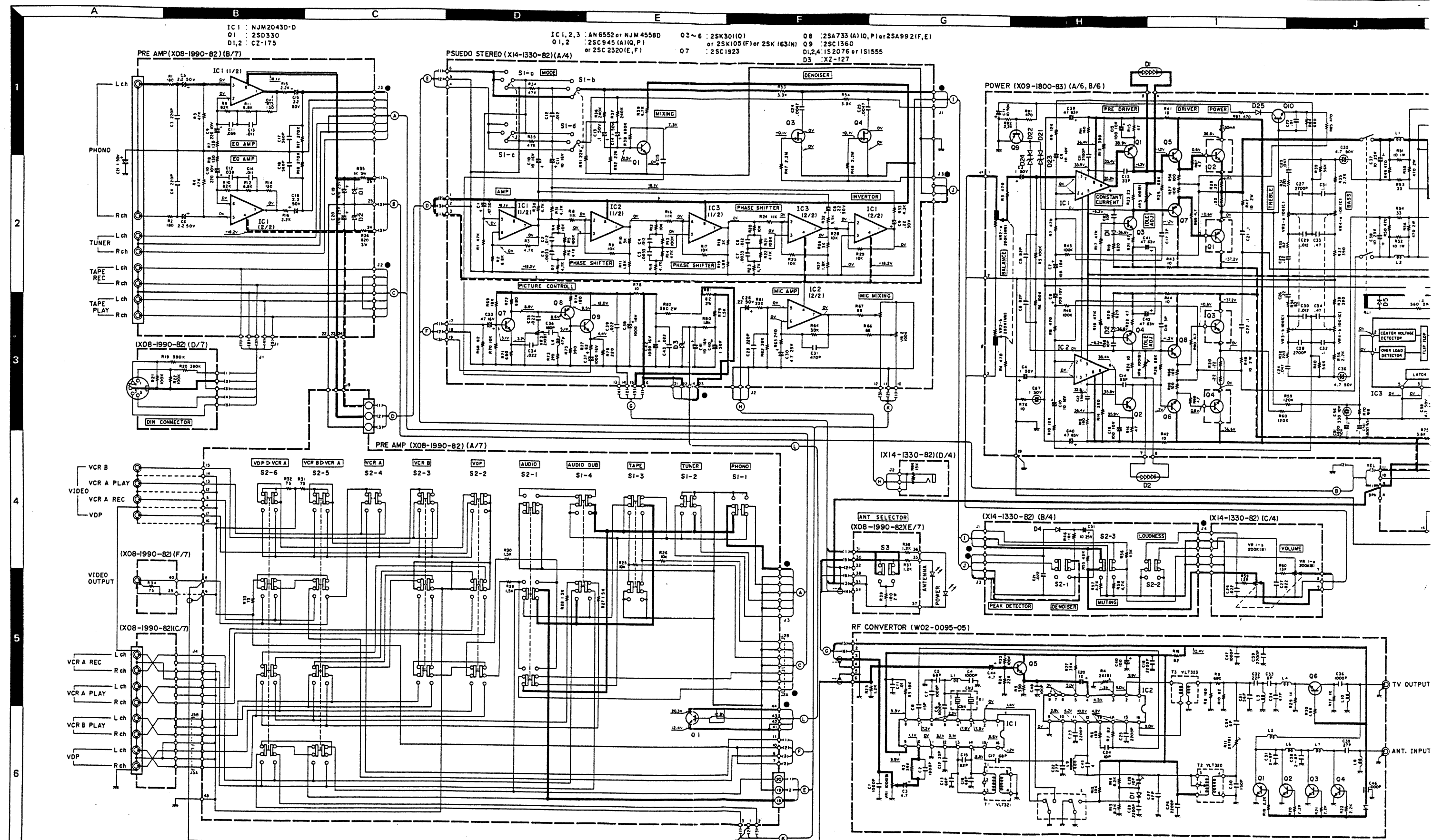
PC BOARD

PSEUDO STEREO (X14-1330-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors.
The pc board drawing is viewing from the side easy to check.

AUDIO-VIDEO AMPLIFIER



2SA733
2SA992
2SC1360
2SC1923
2SC2320
2SC945

2SA1110
2SA899
2SC2590

2SD330

2SA1227
2SC2987

2SK 105
2SK 163

NJM2043D-D
NJM4558D

AN7060

μPC1237H

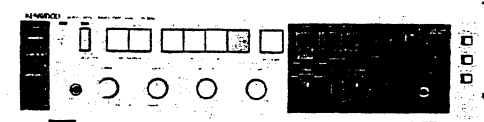
AN6552

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec mètre à haute impédance sans signal d'ent valeurs peuvent différer légèrement du fait c tions inhérentes aux appareils et aux instrum mesure individuels.

AUDIO-VIDEO AMPLIFIER

KVA-503



SPECIFICATIONS

65 watts* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.05% total harmonic distortion.

| | |
|----------------------------------------------------|----------------------------------|
| Dynamic power at 8 ohms | 230W |
| Total harmonic distortion (20 Hz to 20,000 Hz) | 0.05% at rated power into 8 ohms |
| TUNER input to SPEAKER output | 0.03% at rated power into 8 ohms |
| Intermodulation distortion (80 Hz : 7 kHz = 4 : 1) | 0.03% at rated power into 8 ohms |
| Damping factor (SPEAKER A) | 300 at 100 Hz, 8Ω |
| Frequency response | 8 Hz to 80 kHz, -3 dB |
| Speaker impedance | Accept 4 ohms to 16 ohms |

| | |
|--------------------------------|------------------------|
| Input sensitivity/impedance | 2.5 mV/47 kohms |
| Phono | 150 mV/47 kohms |
| Tuner | 200 mV/47 kohms |
| Mic | 1.2 mV/10 kohms |
| Signal to noise ratio (IHF, A) | 81 dB for 2.5 mV input |
| Phono | 100 dB |
| Tuner, Tape | 100 dB |
| Mic | 60 dB |

| | |
|-------------------------------|-----------------------------------------------|
| Maximum input level for phono | 170 mV (RMS), T.H.D. 0.03% at 1,000 Hz |
| Output level/impedance | 150 mV/2 kohms |
| Tape REC (Pin) | 150 mV/2 kohms |
| Frequency response for phono | RIAA standard curve ±0.3 dB (30 Hz to 20 kHz) |
| Tone control | |
| Bass | ± 10 dB at 100 Hz |
| Treble | ± 10 dB at 10 kHz |
| Loudness control | +10 dB at 100 Hz (at -30 dB VOLUME Level) |

| | |
|-----------------------------------|----------------------------|
| VIDEO | |
| Video input sensitivity/impedance | 1.0V pp/75 ohms unbalanced |
| VCR A, VCR B, VDP | |
| Video signal to noise ratio | 62 dB |
| VCR A, VCR B, VDP - VIDEO OUT | |
| Video frequency response | 5 Hz to 6 MHz/-2 dB |
| VCR A, VCR B, VDP - VIDEO OUT | |
| Audio input sensitivity/impedance | -6 dBs/47 kohms unbalanced |
| VCR A, VCR B, VDP | |

| | |
|-----------------------------------|--------------------------------------------------------------|
| Audio output level | -6 dBs/47 kohms unbalanced |
| VCR REC (Pin) | |
| Audio signal to noise ratio | 100 dB |
| VCR A, VCR B, VDP - VCR REC (Pin) | |
| VCR A, VCR B, VDP - SPEAKER | 90 dB |
| Audio frequency response | 250 kHz/-3 dB |
| VCR A, VCR B, VDP - VCR REC (Pin) | |
| VCR A, VCR B, VDP - SPEAKER | 70 kHz/-3 dB |
| VHF OUT signal | Channel 3 or 4 switchable (Preset to channel 3 when shipped) |

| | |
|-------------------|------------------------------------------------------------------|
| GENERAL | |
| Power consumption | 380W |
| A.C. outlet | Switched 1, Unswitched 2 |
| Dimensions | W 440 mm (17-5/16") H 109 mm (4-9/32") D 336 mm (13-7/32") |
| Net weight | 8.1 kg (17.8 lb) |

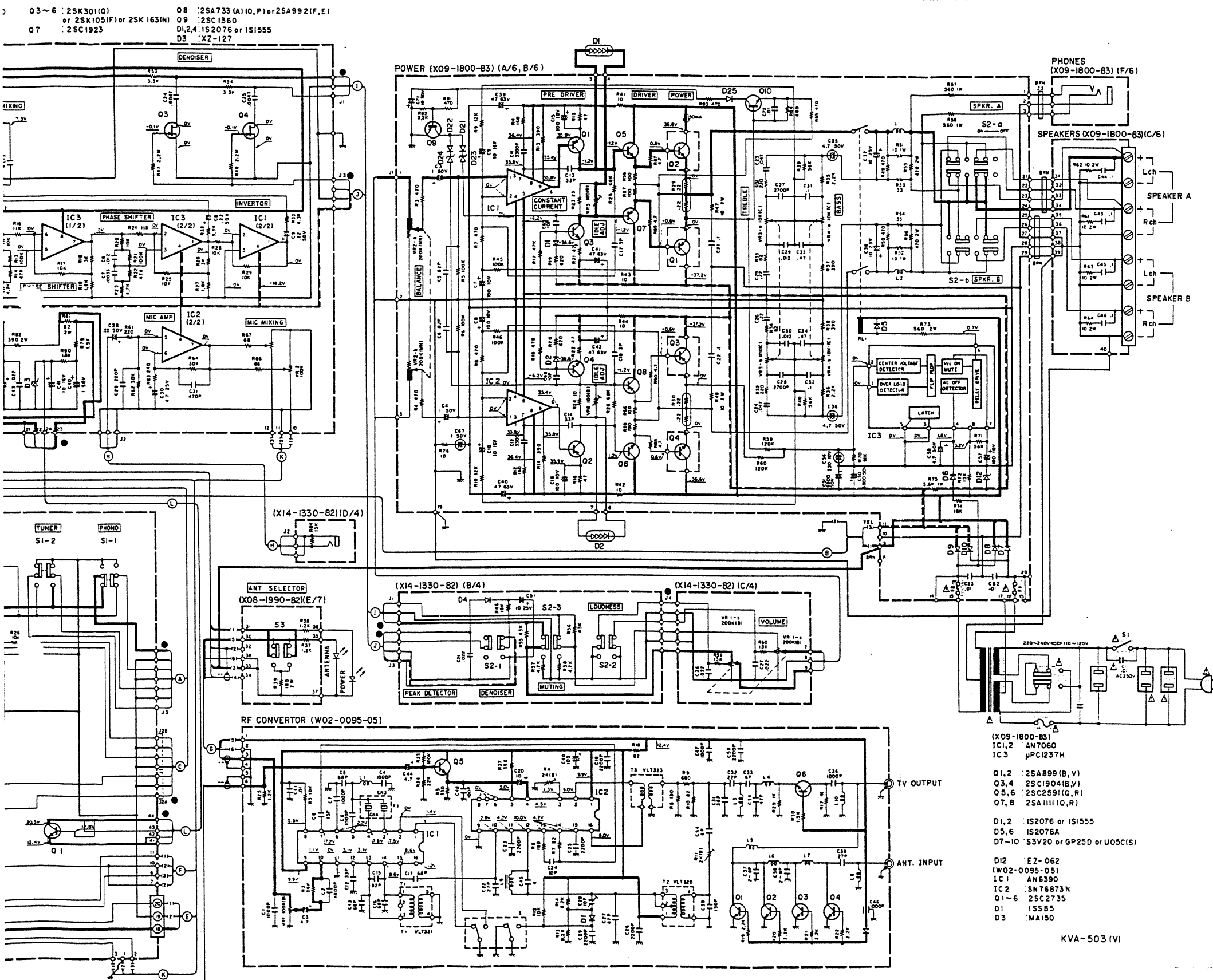
* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



AN7060

µPC1237H

AN6552

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

PARTS LIST

* New Parts

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| Ref. No. 参照番号 | Address 位置 | New Parts 新 | Parts No. 部品番号 | Description 部品名 / 規格 | Desti- nation 仕 向 | Re- marks 備考 |
|-----------------------------------------------------|----------------------|-------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------|
| C13 ,14 C17 ,18 | | | CO93M1H113J CK45B1H561K | MYLAR 0.011UF J CERAMIC 560PF K | | |
| 101 102 103 104 | 2D 1D 2D 2D | * | E06-0510-05 E13-0117-05 E13-0432-05 E13-0433-05 | REC/PLAY JACK PHONE JACK PHONE JACK PHONE JACK | | |
| R35 R36 R39 | | * | RS14GB3F102J RS14GB3F821J RS14GB3D181J | FL-PR00F RS 1K J 3F FL-PR00F RS 820 J 3F FL-PR00F RS 180 J 3D | | |
| S1 S2 S3 | 1B 1B 2B | * | S42-4022-05 S42-6012-05 S40-2146-05 | MULTI. PUSH SW(AUDIO SELECTOR) MULTI. PUSH SW(VIDEO SELECTOR) PUSH SWITCH (ANT SELECTOR) | | |
| D1 ,2 IC1 Q1 | | * | RD18F(B2) NJM2043D-D 2SD330 | ZENER DIODE IC TRANSISTOR | | |
| AUDIO (X09-1800-82) | | | | | | |
| C3 ,4 C5 ,6 C11 ,12 C13 ,14 C17 ,18 | | * | CE04AW1H010M CC45SL1H820J CK45B1H332K CC45SL1H330J CC45SL1H030C | LL-ELEC 1UF 50WV CERAMIC 82PF J CERAMIC 0.0033UF K CERAMIC 33PF J CERAMIC 3PF C | | |
| C21 ,22 C23 ,24 C25 ,26 C27 ,28 C29 ,30 | | | CO93M1H104K CO93M1H473J CO93M1H224J CO93M1H272J CO93M1H123J | MYLAR 0.1UF K MYLAR 0.047UF J MYLAR 0.22UF J MYLAR 0.0027UF J MYLAR 0.012UF J | | |
| C31 ,32 C33 ,34 C35 ,36 C43 ,46 C50 ,51 | | * | C91-0608-05 C91-0609-05 CE04BW1H4R7M CO93M1H104K C90-0538-05 | MF 0.1UF J MF 0.47UF J NP-ELEC 4.7UF 50WV MYLAR 0.1UF K ELECTRO 7500UF 56WV | | |
| C52 ,53 C56 C58 C65 ,66 C67 | | * | CK45E2H103P CE04BW1A331M CE04W1H4R7M CC45SL1H100D CE04BW1H010M | CERAMIC 0.01UF P NP-ELEC 330UF 10WV ELECTRO 4.7UF 50WV CERAMIC 10PF D NP-ELEC 1UF 50WV | | |
| C72 | | | CK45F1H103Z | CERAMIC 0.01UF Z | | |
| 201 202 | 3A,2B 1C | | E11-0331-05 E20-0812-05 | PHONE JACK SCREW TERMINAL BOARD(SPEAKERS) | | |
| △ F1 ,2 | | | F05-6021-05 | FUSE | | |
| - | | | J13-0041-05 | FUSE CLIP | | |
| L1 ,2 | | | L39-0085-05 | PHASE-COMPENSATION COIL | | |
| R15 ,16 R19 ,20 R21 ,22 R23 ,24 R27 ,28 | | | RD14GB2E470J RD14GB2E621J RD14GB2E470J RD14GB2E270J RD14GB2E101J | FL-PR00F RD 47 J 2E FL-PR00F RD 620 J 2E FL-PR00F RD 47 J 2E FL-PR00F RD 27 J 2E FL-PR00F RD 100 J 2E | | |
| R29 ,30 R41 ,44 R47 ,48 | | | R90-0187-05 RD14GB2E100J RS14GB3D100JMA | MULTI-COMP 0.22X2 K 3H FL-PR00F RD 10 J 2E FL-PR00F RS 10 J 3D | | |

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|-----------------------------------------------------|---------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------|
| R51 ,52 R53 ,54 R55 ,56 R57 ,58 R61 -64 | | | RS14GB3A100JMA RD14GB2E330J RS14GB3D471JMA RS14GB3A561JMA RS14GB3D100JMA | FL-PROOF RS 10 J 3A FL-PROOF RD 33 J 2E FL-PROOF RS 470 J 3D FL-PROOF RS 560 J 3A FL-PROOF RS 10 J 3D | | |
| R65 ,66 R73 R75 R87 -90 VR2 | 2B | * | RD14GB2E101J RS14GB3D561JMA RS14GB3A562JMA RD14GB2H4R7J R06-5086-05 | FL-PROOF RD 100 J 2E FL-PROOF RS 560 J 3D FL-PROOF RS 5.6K J 3A FL-PROOF RD 4.7 J 2H POTENTIOMETER 200K (BALANCE) | | |
| VR3 ,4 VR5 ,6 | 2B | * | R06-3040-05 R12-0077-05 | POTENTIOMETER 10K (TONE) TRIMMING POT. 100 (BIAS) | | |
| RL1 S2 | 2B | * | S51-4040-05 S42-2068-05 | MAGNETIC RELAY MULTIPLE PUSH SW (SPEAKERS) | | |
| D1 ,2 D1 ,2 D5 ,6 D7 -10 D7 -10 | | | 1S1555 1S2076 1S2076A GP25DL S3V20 | DIODE DIODE DIODE DIODE DIODE | | |
| D7 -10 D12 D21 ,22 D23 ,24 D25 | | * | U05C(S) RD6.2J(B2) 1S2076A RD24E(B4) 1S2076A | DIODE ZENER DIODE DIODE ZENER DIODE DIODE | | |
| IC1 ,2 IC3 Q1 ,2 Q3 ,4 Q5 ,6 | | * | AN7060 UPC1237H 2SA899(B,V) 2SC1904(B,V) 2SC2590(Q,R) | IC IC TRANSISTOR TRANSISTOR TRANSISTOR | | |
| Q7 ,8 Q9 Q10 | | | 2SA1110(Q,R) 2SA733(A)(Q,P) 2SC945(A)(Q,P) | TRANSISTOR TRANSISTOR TRANSISTOR | | |
| PSEUDO STEREO (X14-1330-82) | | | | | | |
| C2 C3 C4 C5 C6 | | | CQ93M1H123K CQ93M1H332K CQ93M1H123K CQ93M1H332K CQ93M1H123K | MYLAR 0.012UF K MYLAR 0.0033UF K MYLAR 0.012UF K MYLAR 0.0033UF K MYLAR 0.012UF K | | |
| C7 C12 C15 C24 ,25 C26 ,27 | | | CQ93M1H332K CQ93M1H123K C91-0609-05 CQ93M1H472K CQ93M1H223K | MYLAR 0.0033UF K MYLAR 0.012UF K MF 0.47UF J MYLAR 0.0047UF K MYLAR 0.022UF K | | |
| C28 C29 C31 C34 ,35 C36 | | | CE04AW1HR22M CC45SL1H221J CK45B1H471K CK45F1H223Z CC45SL1H181J | LL-ELEC 0.22UF 50WV CERAMIC 220PF J CERAMIC 470PF K CERAMIC 0.022UF Z CERAMIC 180PF J | | |
| C39 C43 | | | CK45F1H223Z CK45F1H223Z | CERAMIC 0.022UF Z CERAMIC 0.022UF Z | | |
| 301 L4 | 3B,2C | * | E11-0086-05 L40-4705-25 | PHONE JACK SMALL FIXED INDUCTOR | | |

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P: Canada

S: South Africa

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U: PX(Far East, Hawaii)

[UE]: AAFES(Europe)

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KVA-503

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|-----------------------|---------------|--------------|-------------------|---------------------------------|------------------------|--------------------|
| KVA-503 (UNIT) | | | | | | |
| 50 | 1A | | A01-0430-12 | METALLIC CABINET | | |
| 51 | 3B | * | A20-3539-03 | PANEL ASSY | | |
| - | | | B46-0094-03 | WARRANTY CARD | | |
| - | | | B46-0095-03 | WARRANTY CARD | | |
| - | | * | B50-4770-00 | INSTRUCTION MANUAL | | |
| - | | | B59-0092-00 | SERVICE DIRECTORY | | |
| 52 | 2A | | B30-0201-05 | LED | | |
| 53 | 2A | | B30-0378-05 | LED | | |
| △ C1 | 2B | * | C91-0023-05 | CERAMIC CAP. 0.01UF AC250V | | |
| △ 54 | 1D | * | E03-0045-05 | AC OUTLET | | |
| 55 | 2D | | E13-0439-05 | PHONE JACK | | |
| △ 56 | 1D | * | E30-0515-05 | AC POWER CORD | | |
| 57 | 1D | | E30-0714-15 | CORD WITH PLUG | | |
| 58 | 1D | | E30-0734-05 | AUDIO CORD (BUILT-IN RESISTOR) | | |
| 59 | 3B | | G01-0434-04 | COMPRESSION SPRING | | |
| - | | * | H01-4795-04 | ITEM CARTON CASE | | |
| - | | | H10-1602-02 | POLYSTYRENE FOAMED FIXTURE | | |
| - | | | H10-1603-12 | POLYSTYRENE FOAMED FIXTURE | | |
| - | | | H12-0090-04 | PACKING FIXTURE | | |
| - | | | H20-0452-04 | PROTECTION COVER | | |
| - | | | H21-0609-04 | PROTECTION SHEET | | |
| - | | | H25-0078-04 | PROTECTION BAG | | |
| 60 | 3C, 3D | | J02-0118-14 | FOOT | | |
| △ 61 | 1D | * | J41-0033-05 | POWER CORD BUSHING | | |
| 62 | 2A | | K27-0742-04 | KNOB (BUTTON) SPEAKERS | | |
| 63 | 3A | | K27-0744-04 | KNOB (BUTTON) ANTENNA | | |
| 64 | 3A | | K27-0745-13 | KNOB (BUTTON) SQUARE, SILVER | | |
| 65 | 3A | | K27-0746-13 | KNOB (BUTTON) SQUARE, ORG | | |
| 66 | 3A | * | K27-0991-03 | KNOB (BUTTON) SQUARE, BLK | | |
| 67 | 3B | * | K27-0992-04 | KNOB (BUTTON) MUTE, LOUD, NOISE | | |
| 68 | 3B | | K29-0463-04 | KNOB TONE, BAL, PIC | | |
| 69 | 3A | | K29-0485-14 | KNOB VOLUME | | |
| 70 | 2A | | K29-1176-04 | KNOB ASSY POWER | | |
| 71 | 3B | * | K29-1289-04 | KNOB MODE, MIC | | |
| △ 72 | 1C | * | L01-3135-05 | POWER TRANSFORMER | | |
| 73 | 1D | | N08-0128-35 | BINDING POST (GND) | | |
| 74 | 1D | | N29-0053-05 | PUSH RIVET | | |
| △ S1 | 2C | * | S31-2053-05 | SLIDE SWITCH (POWER TYPE) | | |
| △ S2 | 2B | * | S40-1022-05 | PUSH SWITCH (POWER TYPE) | | |
| D1 .2 | 1B | | STV-4H(G) | VARIATOR | | |
| Q1 .3 | 1C, 2C | * | 2SA1227(R, O) | TRANSISTOR | | |
| Q2 .4 | 2B, 2C | * | 2SC2987(R, O) | TRANSISTOR | | |
| 75 | 2D | | W02-0095-05 | RF CONVERTER | | |
| PRE AMP (X08-1990-82) | | | | | | |
| C3 .4 | | | CC45SL1H221J | CERAMIC 220PF J | | |
| C5 .6 | | | CE04AW1H2R2M | LL-ELEC 2.2UF 50WV | | |
| C11 .12 | | | CQ93M1H393J | MYLAR 0.039UF J | | |

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|------------------|---------------|-------------------|-------------------|-------------------------------|------------------------|--------------------|
| R78 | | | RD14GB2E100J | FL-PROOF RD 10 J 2E | | |
| R79 | | * | RD14GB2E152J | FL-PROOF RD 1.5K J 2E | | |
| R80 | | * | RD14GB2E182J | FL-PROOF RD 1.8K J 2E | | |
| R81 | | | RS14GB3D820J | FL-PROOF RS 82 J 3D | | |
| R82 | | | RS14GB3D391J | FL-PROOF RS 390 J 3D | | |
| VR1 | 3B | * | RO6-5083-05 | POTENTIOMETER 200K (VOLUME) | | |
| VR2 | 2C | * | RO6-5082-05 | POTENTIOMETER 100K (MIC MIX) | | |
| VR3 | 2C | * | RO1-1017-05 | POTENTIOMETER 2K (PICTURE) | | |
| S1 | 2C | * | S29-4011-15 | ROTARY SLIDE SWITCH (MODE) | | |
| S2 | 3C | * | S42-3054-05 | MULTIPLE PUSH SW (MUTE, LOUD) | | |
| D3 | | | RD13E(B2) | ZENER DIODE | | |
| D4 | | | 1S1555 | DIODE | | |
| D4 | | | 1S2076 | DIODE | | |
| IC1 -3 | | | AN6552 | IC | | |
| IC1 -3 | | | NJM4558D | IC | | |
| Q1 | | | 2SC2320(E,F) | TRANSISTOR | | |
| Q1 | | | 2SC945(A)(Q,P) | TRANSISTOR | | |
| Q3 ,4 | | | 2SK105(F) | FET | | |
| Q3 ,4 | | | 2SK163(N) | FET | | |
| Q7 | | | 2SC1923 | TRANSISTOR | | |
| Q8 | | | 2SA733(A)(Q,P) | TRANSISTOR | | |
| Q8 | | | 2SA992(F,E) | TRANSISTOR | | |
| Q9 | | * | 2SC1360 | TRANSISTOR | | |

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